Rotary Furnace in the Pipe Rolling Shops
of the Combine "Novaya Gut'" imeni Klement
Gottval'da in Kunchitsy (Ostrava)

round billets [illegible] to [illegible] mm diameter and 2,[illegible] mm maximum length; (5) average heating period of billets, 2 hr. The furnace is fully automated and is serviced by 15 men per 24 hr. The shop productivity after installation of the furnace increased by 60% with an annual saving of about 2 million rubles. The furnace was designed by the Hutni Project Trshinets (Hutnim Proektom Trshinets) and built in the Klatovy Machine Building Plants (Klatovskiye Mashinostroitel'nyye zavod)

Card 2/2

18.7400

77436
SOV/130-60-1-19/22

AUTHOR: Kopachek. A., translated by Punchokharzhova, T.

TITLE: Equipment for Pipe Insulation by Atomization in the Electrostatic Field

PERIODICAL: Metallurg, 1960, Nr 1, pp 40-41 (USSR)

ABSTRACT: This is a corrected version of the same article printed with typographical errors in Metallurg, 1959, Nr 12 (Abstract Nr 76837). Chief technologist of "Novaya Gut'" Combine (Kombinat "Novaya Gut'") in Czechoslovakia, Yan Burda, proposed the insulation of pipes by atomization in an electrostatic field. The unit works on the principle of electrostatic purification of blast furnace gas. The insulating material is injected, by means of a special automatic atomizing gun, into the area near a horizontally arranged electrode cylinder (formed by thin wires). An electrostatic field of a minimum of 100,000v is created in that area. The very fine droplets of the insulating material are electrically charged and are attracted from all directions

Card 1/3

Equipment for Pipe Insulation by Atomization
in the Electrostatic Field

77436
SOV/130-60-1-19/22

toward the grounded pipe. This method guarantees the uniformity of the insulating layer and prevents any loss of insulating material. The installation has the necessary signalling and blocking system to provide for complete safety. Pipes 114 to 245 mm in diameter can be insulated in the installation. There is 1 figure.

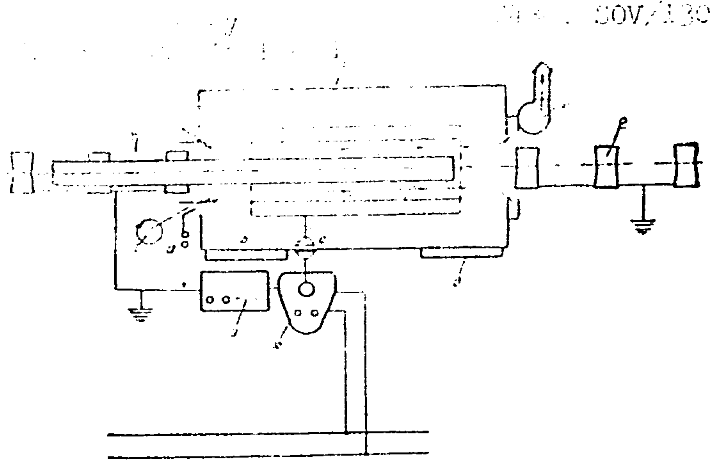

Fig. 1. Diagram of equipment for covering pipes with an insulating material. (1) Pipe; (2) roller table; (3) purification chamber; (4) exhaust fan; (5) gun; (6) photocell; (7) reservoir for insulating material; (8) control device; (9) control panel; (10) high-voltage generator; (a) solenoid valves; (b) electronic panel; (c) passage for high voltage.

Card 3/3

PUNCMAN, K.; RIEDL, J., inz.

Thermoplastic cables for local telecommunication networks. Cs spoje 7 no.6:14-18 Je '62.

1. Kablo, n.p., Decin (for Puncman). 2. Vyzkumny ustav spoju (for Riedl).

PUNČOCHAR, J.

Z/6284

PHASE I BOOK EXPLOITATION

Jerie, Jan, ed., Engineer, Doctor, Corresponding Member of the Czechoslovak Academy of Sciences

Základní problémy ve stavbě spalovacích turbin (Basic Problems in the Construction of Gas Turbines [collection of articles]). Prague, Nakl. ČAV, 1962. 627 p. 1600 copies printed.

Sponsoring Agency: Československá akademie věd.

Ed. of Publishing House: Marie Moravcová; Tech. Ed.: František Končický.

PURPOSE: The book is intended to familiarize turbine designers with recent developments in the design of gas turbines and to present some research results which may be helpful in designing more efficient turbines.

COVERAGE: The book comprises articles by leading Czechoslovak turbine experts on thermodynamic cycles, flow research in turbine components,

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Basic Problems in the Construction (Cont.)

burning of fuel in combustion chambers, axial compressors, and characteristics of turbines manufactured in Czechoslovakia.

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V. Král (V. I. Lenin Plant, Plzeň). Combustion Turbines Produced by the V. I. Lenin Plant in Plzeň 11

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J. Punčochář (Klement Gottwald First Brno Armament Plant, Brno). Evaluation of Thermal Cycles by the Method of Reversibility 39

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R. Dvořák (Institute for Machine Research, Czechoslovak Academy of Sciences, Prague) and K. Čelikovský (Aviation Research and Testing Institute, Letňany). Flow in the Transonic and Supersonic Stage of an Axial Compressor 513

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Basic Problems in the Construction (Cont.) Z/6284

J. Čamek (State Research Institute for Heat Engineering, Prague). Theoretical Study on the Possibility of Obtaining Flatter Turbine Stage Characteristics $\eta u = f(u/c_{ad})$. 547

I. Zuber (State Research Institute for Heat Engineering, Prague). Experimental and Theoretical Results in the Field of Combustion Chambers 571

J. Baloš (Klement Gottwald First Brno Armament Plant, Brno). A Combustion Chamber for the PBZKG 1-Mw Turbine [PBZKG is Czech abbreviation for Gottwald Plant] 589

O. Schůrek (Aviation Research and Testing Institute, Letňany). Burning of Fuel in Combustion Chambers of Jet Engines 603

AVAILABLE: Library of Congress

SUBJECT: Aerospace

AD/jsj/jk
3/21/63

Card 8/8

PUNCOCHAR, J.

PHASE I BOOK EXPLOITATION

JUN 25 Z/6284

Jerie, Jan, ed., Engineer, Doctor, Corresponding Member of the Czechoslovak Academy of Sciences

Základní problémy ve stavbě spalovacích turbin (Basic Problems in the Construction of Gas Turbines [collection of articles]). Prague, Nakl. CAV, 1962. 627 p. 1600 copies printed.

Sponsoring Agency: Československá akademie věd.

Ed. of Publishing House: Marie Moravcová; Tech. Ed.: František Končický.

PURPOSE: The book is intended to familiarize turbine designers with recent developments in the design of gas turbines and to present some research results which may be helpful in designing more efficient turbines.

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Card 1/2

Z/6284

Basic Problems in the Construction (Cont.)

burning of fuel in combustion chambers, axial compressors, and characteristics of turbines manufactured in Czechoslovakia.

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B. Limpouch (IBZKG - VÚEZ Hradec Králově). Combined Steam-Gas Cycle With a Hot-Air Turbine 47

J. Punčochář. A Proposed Cycle Utilizing Heat of Compression 69

Card 2/2

PHASE I BOOK EXPLOITATION CZECH/4561

Punčochář, Jaroslav

Tepelné oběhy plynových turbin (Heat Cycles of Gas Turbines) Prague, Naklad. Československé Akademie věd, 1960. 77 p. (Series: Československá akademie věd. Rozpravy. Řada technických věd, Ročník 70, Sešit 2) 800 copies printed.

Sponsoring Agency: Československá akademie věd.

Editorial Board: Silvestr Prát, Academician (Chairman), Bohumil Bydžovský, Academician, Vilém Chmelař, Corresponding Member, Czechoslovak Academy of Sciences, Radim Kettner, Academician, Rudolf Lukeš, Academician, Jan Rypka, Academician, Josef Sekanina, Corresponding Member, Czechoslovak Academy of Sciences, František Štajgr, Corresponding Member, Czechoslovak Academy of Sciences, Václav Tesař, Corresponding Member Czechoslovak Academy of Sciences; Eds.: Ladislav Khás, and Jaroslav Hain; Reviewer: Jan Jerie, Corresponding Member, Czechoslovak Academy of Sciences,

PURPOSE: This booklet is intended for scientists, designers, and engineers.

Card 1/4

Heat Cycles of Gas Turbines

CZECH/4561

COVERAGE: The booklet presents the theoretical principles of heat cycles and discusses practical aspects of gas turbine cycles in detail. A comparative examination of five gas-turbine cycles in actual use of more than 10 MW output is given. The principle of utilizing compression heat and related phenomena are included. No personalities are mentioned. There are no references.

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    1.2. Another perfectly reversible cycle 4
    1.3. Summary of common characteristics of the cycles described above 4
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    3.1. Perfectly reversible Brayton cycle 16

Card 2/4

PUNCOCHAR, Jiri, promovany ekonom

Methodical directives for determining the economic effects of technical standardization. Normalizace 11 no.8: suppl: Za pokrokovou normalizaci:P3/1P3/7 '63.

1. Urad pro normalizaci a mereni, Praha.

PUNCOCHAR, LUDVIK

2

Ergotamine salts from ergot alkaloids. Josef Pitra and Ludvík Punčochář. Czech. 85,509, Feb. 1, 1956. Use of HCO_2H in MeOH in working up crude alkaloid bases prevents their destruction and treatment with strong acids gives the cryst. salts in good yield. A crude prepn. (100 g.) contg. 85–95% alkaloids is suspended in 500 ml. abs. MeOH, dissolved by addn. of 100–75 ml. 75% HCO_2H, the soln. filtered, and the filtrate treated dropwise with vigorous stirring with 33.3 ml. 5N H_2SO_4 in 300 ml. MeOH gives the cryst. ergotamine sulfate which on careful decompn. gives the free base, $[\alpha]_D^{20}$ −160°. L. J. Urbánek

Chem

PUNCOCHAR, L.

2

Preparation of pure ergotamine. J. Pitra and L. Punčochář (Farmakon, Olomouc, Czech.). *Českoslov. Farm.* 5, 584(1956).—Ergotamine (I) was obtained from crude alkaloid fraction of ergotamine-type as follows: 30 g. of crude alkaloids (contg. 81% bases according to the photocolorimetric analysis) was dissolved in 150 ml. MeOH with stirring, the undissolved ergotaminine dissolved by addn. 51 ml. 75% HCO_2H, the soln. filtered, and the filter washed with 30 ml. MeOH. Ten ml. 5*N* H_2SO_4 with 60 ml. MeOH was added to the filtrate with stirring, the soln. allowed to stand for 30 min. at room temp., then 2 hrs. in water at 0°, the crystals of I-sulfate filtered, washed with cold MeOH, Et_2O, and air dried over night giving 21 g. of I-sulfate, m. 191-92.5°. I-base $[\alpha]^{20}_D$ −160°. (0.98 in $CHCl_3$). The purity of alkaloids was controlled by paper chromatography.

K. Macek

PUNCOCHAR, Z., inz.; KECLIK, V., inz.; CHVOJKA, Jan, inz.; JANSCH, Frantisek, inz.; SORAL, J., inz.; TEINDL, J.; CHVOJKA, Jiri, inz.

Information on metallurgy. Hut listy 18 no.4:279-290 Ap '63.

L 38763-66 EWT(l)/ETI IJP(c) JD

ACC NR: AP6029565 SOURCE CODE: CZ/0057/65/000/009/0366/0369

AUTHOR: Puncochar, Zdenek (Engineer)

2-2 β

ORG: VZKG, Ostrava

TITLE: Improvement due to homogenization of the ore charged to a blast furnace

SOURCE: Hutnik, no. 9, 1965, 366-369

TOPIC TAGS: blast furnace, homogenization heat treatment, coke, industrial management

ABSTRACT: The importance of having a homogeneous charge entering the blast furnace is discussed. Results obtained with a charge containing 85% of the ore in a homogenized form are described. The economic aspects of such an operation are evaluated. In the author's plant the homogenization of the ore improved the quality of the agglomerate but not the quality of pig iron. This is probably due to the fact that the basicity of the agglomerate continued to vary, and so did the grain size of the limestone, and the water and ash contents in the coke. The main advantage of the process of homogenization was a reduction in the amount of coke needed which was about 6.6%. Orig. art. has: 1 figure and 4 tables. [JPRS]

SUB CODE: 11, 13, 05 / SUBM DATE: none / ORIG REF: 004 / SOV REF: 001
OTH REF: 002

Card 1/1

0917 2659

L 34924-66 EWP(t)/ETI IJP(c) JD

ACC NR: AP6026624 SOURCE CODE: CZ/0034/66/000/004/0233/0237

AUTHOR: Kabelac, Oldrich (Engineer); Puncochar, Zdenek (Engineer); Hohn, Josef (Engineer) 23 B

ORG: Klement Gottwald Vitkovice Iron Works, Ostrava (Vitkovicke zelezarny K. Gottwalda)

TITLE: Complete automation of the charging of blast furnace no. 6 at the Vitkovice Iron Works 18

SOURCE: Hutnicke listy, no. 4, 1966, 233-237

TOPIC TAGS: industrial automation, blast furnace, conveying equipment, metallurgic industry

ABSTRACT: Practical experience with the new way of burden transport was very satisfactory. The total length of the belt conveyors is 1.5 kilometers. Skip cars were also replaced by belt conveyors; before the material enters the skips small particles of coke and of sinter are eliminated. The belts are controlled from a remote center. The system is completely reliable. The elimination of fines reduces fuel consumption. The presence of operators in areas of excessive dust was eliminated. Orig. art. has: 6 figures and 4 tables. [Based on authors' Eng. abst.] [JPRS: 36,646]

SUB CODE: 13 / SUBM DATE: none

Card 1/1 UDC: 669.002.5:338.2 669.046.511

L 45071-65 EWP(t)/EWP(b) JD

ACCESSION NR: AP5014323 CZ/0057/64/000/008/0368/0370

12

11

B

AUTHOR: Puncochar, Zdenek (Engineer)

TITLE: Sulfur removal from pig iron outside of a blast furnace

18

SOURCE: Hutnik, no. 8, 1964, 368-370

TOPIC TAGS: metal purification, pig iron, refining furnace, sulfur

Abstract: Sulfur removal outside of furnace by soda ash or its mixtures is conducted at present both with acid slags, and with usual slags whenever pig iron has higher S content than is admissible for the economic operation of the steel mill. The complete removal of the slag after the removing of the soda ash slag is difficult; a few minutes after the soda ash slag was removed, new slag is formed. This slag consists of Na_2S and SiO_2, and should be removed to protect the furnace lining. If the slag is not removed fast, S may be reabsorbed from the slag into the iron. Because soda ash is expensive, its application is limited. The sulfur removal liberates substantial amounts of gases, which are noxious to personnel and buildings. Orig. art. has 1 table.

Card 1/2

L 45071-65

ACCESSION NR: AP5014323

ASSOCIATION: VZKG, Ostrava

SUBMITTED: 00	ENCL: 00	SUB CODE: MM, IE
NO REF SOV: 006	OTHER: 010	JPRS

Card 2/2

L 46963-65 EWP(b)/EWP(t) IJP(c) JD
ACCESSION NR: AP5015104 CZ/0057/64/000/009/0419/0421

8
B

AUTHOR: Puncochar, Zdenek(Engineer)

TITLE: Desulfurization of pig iron by means of soda in the VZKG

SOURCE: Hutnik, no. 9, 1964, 419-421

21

✓TOPIC TAGS: sulfur, pig iron, desulfurization 14

Abstract: Results are presented of experimental removal of sulfur from pig iron in drum ladles in a pilot project. Analyzed is the usefulness of blast furnaces with a more acid slag. For the time being no plans have been made for building special installations for systematic desulfurization of pig iron. It is, therefore, recommended to use drum ladles with a larger volume for the desulfurization of foundry pig iron. The method would be applied only in cases in which the sulfur content exceeds the level prescribed by Czechoslovak standards. Included are tables showing the results of experiments and the occurence of foundry pig iron with a higher sulfur content. Orig. art. has 2 tables.

ASSOCIATION: VZKG, Ostrava

Card 1/2

L 46963-65
ACCESSION NR: AP5015104

0

SUBMITTED: 00

ENCL: 00

SUB CODE: MM, GC

NO REF SOV: 000

OTHER: 000

JPRS

Card 2/2 cc

PUNCOCHAR, Z., inz.

"Equipment of a blast furnace with capacity of 2700 m^3" by N.K.Leonidov, V.V.Dansin. Reviewed by Z.Puncochar. Hut listy 18 no.10:737-738 O '63.

PUNCOCHAR, Z., inz.; JICINSKY, J., dr., inz.; HANCL, J.; BECVAR, J.; STROBL, L.;
KARNOVSKY, inz.; KLIKA, R.; KRUMNIKL, Fr., inz.; SORAL, J., inz.;
TEINDL, J.; VRBENSKA, inz.

Information on metallurgy. Hut listy 17 no.11:816-829 N '62.

PUNCOCHAR, Z., inz.; LVOVA, M., inz.; FRIEDRICH, V., inz.; [illegible], [illegible], inz.;
KRUMNIKL, Frantisek, inz., BAUER, J., inz.; SORAL, [illegible], inz.;
HORAK, J., dr., inz.; PEDLIK, M., inz.

Information on metallurgy. Hut listy 18 no.5:362-374 My '63.

PUNCOCHAR, Z., inz.

"In the increase of blast air kinetic energy there is a great reserve for raising the pig iron production" by L.G.Sumakov. Reviewed by Z.Puncochar. Hut listy 18 no.11: 801-802 N'63.

"Increasing the economy of blast furnace operation" by G.G.Oreskin [Oreshkin, G.G.]. Reviewed by Z.Puncochar. 836.

HERIAN, E.; PUNCOCHAR, Z., inz.; CHVOJKA, Jan, inz.; KECLIK, V., inz.; SMRHA, L., inz.; ZIDEK, M., inz.; HORAK, J., dr. inz.; TEINDL, J.; SEDLACEK, V.

Information on metallurgy. Hut listy 18 no.6:436-450 Je '63.

PUNCOCHAR, Z., inz.

"Fraibility of blast furnace charge materials" by G.I. Fedorenko. Reviewed by Z.Puncochar. Hut listy 19 no 11:825-826 N '64.

PUNCOCHARM Z., inz.; VESELY, J., inz.; KEPKA, M., inz.; KECLIK, V., inz.;
HRBEK, A.; KRUMNIKL, F., inz.; BENDA, O.

Information. Hut listy 18 no.8:597-605 Ag '63.

BECVAR, J., inz.; PUNCOCHAR, Zd., inz.; MOTLOCH, Z., inz.; KREJCI, J., inz.; TEINDL, J., prof., dr.

Informations on metallurgy. Hut listy 18 no.2:139-146 F '63.

KEPKA, M., inz.; PUNCOCHAR, Zd., inz.; VESELY, J., inz.; KECLIK, V., inz.; BECVAR, J., inz.; RANT, Pavel, inz.; CHVOJKA, Jan, inz.; SOMMER, B., inz. KALIVODA, A., inz.; HRBEK, A.

Information on metallurgy. Hut listy 18 no.3:207-223 Mr '63.

PUNCCCHAR, Z., inz.; BECVAR, J.; KALIVODA, A., inz.; BAUER, Jiri, inz., dr.;
PIRNER, M., inz.; DEDEK, Vlad., inz.

Information on metallurgy. Hut listy 17 no.9:676-684 S '62.

HRBEK, A.; CERNY, V., inz.; PUNCOCHAR, Z., inz.; BECVAR, J., inz.; KECLIK, V., inz.; TICHOPADOVA, E., inz.; KREMER, R., inz.; ZIDEK, M., inz.; TEINDL, J.; SESTAK, B., inz.

Information on metallurgy. Hut listy 17 no.12:887-902 D '62.

PUNCOCHAR, Z., inz.; CHVATAL, V., in[illegible] [illegible]ECVAR, J.; KN[illegible]SNIKL, Fr., inz.;
HRBEK, A.; ZIDEK, [illegible]z.; JENICEK, L.

Information on metallurgy. Hut Listy 16 no.4:293-303 Ap '61.

PUNCOCHAR, Z., inz.; ZDENEK, Z., inz.; KOLDINSKY, J., inz.; CHVATAL, Vlad., inz.; DEDEK, Vlad., inz.; JENICEK, L.; MRAZ, V.

Informations on metallurgy. Hut listy 16 no.5:373-380 My '61.

JENICEK, L.; ZIDEK, inz.; PUNCOCHAR, inz.; KVETENSKY, M., inz.

Information on metallurgy. Hut listy 16 [illegible].9:681-684 S '61.

BECVAR, J.; JENICEK, L.; PUNCOCHAR, Z., inz.; CERNY, V., inz.; CHVATAL, inz.

Information on metallurgy. Hut listy 16 no.10:753-760 O '61.

PUNCOCHAR, Z.,inz.

Examination of blast furnace operation in blowing liquid fuel into hearth. Hut listy 17 no.2:145-147 F '62.

PUNCOCHAR, Z., inz.; HRBEK, A.; CHVATAL, Vlad., inz.; VETSIKA, A.; KECLIK, V.; JENICEK, L.; POKORNY, A.; HOREJS, S.; ZIDEK, inz.

Information on metallurgy. Hut listy 16 no.6:445-455 Je '61.

CERNY, V., inz.; PUNCOCHAR, Z., inz.; KECLIK, V., inz.; SEFC, J., inz.
JIRACEK, L.; HRBEK, A.

Informations on metallurgy. Hut listy 16 no.2:147-151 F '61.

1. Ceskoslovenska akademie ved (for Cerny).

PUNCOCHAR, Z.; DEDEK, Vlad., inz.; KECLIK, V., inz.; KRUMNIKL, F.; TEINDL, J.;
BENDA, O.

Information on metallurgy. Hut listy 16 no.7:523-530
Jl '61.

PUNCOCHAR, Z., inz.; BENDA, O.; CHVOJKA, Jan, inz.; CHVATAL, V.; HRBEK, A.;
KRUMNIKL, F.; HOREJS, S., inz.; TEINDL, J.; SESTAK, B.

Information on metallurgy. Hut listy 16 no.8:596-605 Ag '61.

PUNCOCHAR, Zdenek, inz.; KABELAC, Oldrich, inz.

Production of ferromanganese in blast furnaces. Hut listy 16 no.11:771-775 N '61.

1. Vitkovicke zelezarny Klementa Gottwalda, Ostrava.

PUNCOCHAR, Z., inz.; KECLIK, V.; JENICEK, L.; CHVATAL, V., inz.; ZIDEK, inz.;
KOFNOVEC, L.; BECVAR, J.; DEDEK, inz.

Information on metallurgy. Hut listy 17 no.3:216-226 Mr '62.

PUNCOCHAR, Z., inz.; BAUER, J., dr., inz.; KEPKA, M., inz.;
MENSIK, M., inz.; HONZIK, M., inz.; REDR, M.;
CHVOJKA, Jiri, inz.; KRAUS, Z., inz.

Informations on metallurgy. Hut listy 17 no.10:739-749
O '62.

PUNCOCHAR, Z., inz.; KRUMHIKL, F., inz.; HRBEK, A.; VETISKA, A.

Informations on metallurgy. Hut listy 16 no.1:68-72 Ja '61.

Z/004/60/000/008/002/002
A121/A027

18

AUTHOR: Puncochár, Zdenek, Engineer

TITLE: Economical Advantages of Oxygen Application in Metallurgy

PERIODICAL: Nová Technika, 1960, No. 8, pp. 364-366

TEXT: Calling for measures to increase the output of metallurgical industries in the CSR, the author deals with the use of oxygen and its application in metallurgy. The author chiefly describes the efforts and experiences of the USSR, while mentioning in brief experiences of the USA, Great Britain and West Germany, emphasizing that more than one quarter of steel is produced in the USSR by means of oxygen. At the Novo-Tula Plant, USSR, e.g., oxygen-enriched air blasts have been used for more than 12 years in blast furnace operation. There, an amount of 25 - 26 % of oxygen is used in the air blast for production of pig iron to be converted into steel, and an amount of 23 - 24 % of oxygen for production of pig iron to be converted into cast iron. According to M.A. Shapalov, the output capacity of the blast furnaces (No. 1) of this big plant has been considerably increased by oxygen-enriched air blasts after having overcome intial difficulties. The same holds for the output of

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Card 1/4

Z/004/60/000/008/002/002
A121/A027

Economical Advantages of Oxygen Application in Metallurgy

ferromanganese and ferrosilicon, in which cases the consumption of coke could be reduced by 15-16 %. It is difficult to economize coke in steel production, when using oxygen, however, as confirmed by steel workers of the Nizhniy Tagil Plant, this can be achieved by improving the quality of the dressed ore, of the blast furnace gas etc. Furthermore, the author discusses the use of pure oxygen for the refining of molten pig iron, which is a revolutionary process in steel manufacture. According to this method, expensive open-hearth furnace can be reduced by cheaper, and more efficient converters with basic linging, in which up to 26 % of scrap per charge can be used. The operation of such converters could be easily automated. The annual output of a 60-ton converter could be 1.5 times higher than the output of a 500-ton open-hearth furnace. Operation costs could be reduced by half. At the present time, in the USSR 35-ton converters of this type are in operation. At the All-Union "Stal'proyekt" Institute technical documentation of a 100-ton converter is being finished. Oxygen will be conveyed through the pig iron directly from the top. This process will not exceed 40 minutes. Pig iron will be fed in 140-ton ladles. The OX-supply will be fully automated. The heat of the fuel will be used for the generation of

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Z/004/60/000/008/002/002
A121/A027

Economical Advantages of Oxygen Application in Metallurgy

steam. The output capacity of such new converters may reach 1 million ton per year, i.e., 2.5 more than that of conventional furnaces now in operation. Construction of such converters will be started at several metallurgical plants of the USSR. As to economical effects, the utilization of oxygen has to be linked to thrifty fuel consumption. Experiences of the "Azovstal" and "Zaporozhstal'" metallurgical plants prove that by the combined method of using oxygen both in the flames of open-hearth furnaces and in the metal baths, the specific fuel consumption can be cut by 5-10 %. In preliminary refinging processes, oxygen may reduce the silicon content from 0.7 - 0.3 %, or to 0.4 %, as indicated by foreign practice, through which method the output of open-hearth furnaces can be increased up to 15 %. In high-grade electrosteel production, 80 % of the costs go for ferralloys and electric power. Use of oxygen reduces the power consumption from 15-40 %, and expensive ferroalloys may be replaced by (less expensive) high-grade steel alloys. In the USSR, more than 1/3 of electrosteel is produced by means of oxygen. In the CSR, the use of oxygen is limited due to inadequate amount of oxygen and also by the high costs for technically pure oxygen. The author suggests to establish large oxygen generating plants for the combined use in areas where metallurgical and chemical

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Z/004/60/000/008/002/002
A121/A027

Economical Advantages of Oxygen Application in Metallurgy

industries are located close to each other. In the Ostrava area, e.g., an oxygen plant with an output capacity of 100,000 cu m per year would be useful, which would lead to an approximate demand for 5 cu m oxygen per ton in steel production, and for 100 cu m per ton in preliminary pig iron refining an annual output of 7 million ton steel, and 5 million ton of pig iron provided. By cutting the expenses for oxygen generation use of oxygen would be advantageous and feasible in metallurgical processes. There are 2 figures.

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Card 4/4

[illegible]

"Development of blast furnace technique in the USSR."

p. 115 (Hutnik, Vol. 8, No. 4, April 1958, Praha, Czechoslovakia)

Monthly Index of East European Accessions (EEAI) LC, Vol. 7, No. 9, September 1958.

PUNCOCHAR, Z.

TECHNOLOGY

periodicals: HUTNIK Vol. 8, no. 11, Nov. 1958

PUNCOCHAR, Z. Organization of work in a Soviet blast furnace. p. 380

Monthly List of East European Accessions (EEAI) LC Vol. 8, no. 5
May 1959, Unclass.

PUNCOCHAR, Zdenek, inz.

Evaluation of hot blast stoves and possibility of their development. Hut listy 18 no. 12: 837-847 D '63.

1. Vitkovicke zelezarny Klementa Gottwada, Ostrava.

FUNDEV, E.

High yields fro wheat. p. 17.

Vol. 10, no. 12, Dec. 1955
KOOPERATIVNO ZEMEDELIE
Sofiya, Bulgaria

So: Eastern European Accession Vol. 5 No. 4 April 1956

PURDEV, S.; BURIAK, G.; MARKOV, G.

Clinical observation and treatment of varicose ulcer by stimulating solution of magnesium chloride by Medoti Popov's method. p. 267.

Bulgarska akademiia na naukite. Institut po biologia "Metodi Popov."
IZVESTIIA. BULLETIN. Sofia, Bulgaria, Vol. 9, 1958

Monthly List of East European Accessions (EEAI), LC, Vol. 8, No. 12,
December 1959
Uncl.

ACC NR: AP6017957 SOURCE CODE: UR/0413/66/000/010/0025/0025 /

INVENTOR: Lebedev, G. N.; Serebryakova, A. V.; Starshenko, V. I.; Rogatkin, A. A.; Pundrovskiy, V. P.; Khlopkov, L. P.

ORG: None

TITLE: A method for removing phosgene from gases. Class 12, No. 181621

SOURCE: Izobreteniya, promyshlennyye obraztsy, tovarnyye znaki, no. 10, 1966, 25

TOPIC TAGS: phosgene, gas, filtration

ABSTRACT: This Author's Certificate introduces a method for removing phosgene from gases, particularly from waste gases in the production of titanium tetrachloride. The degree of purification is increased by adding hydrogen to the vapor-gas phase at a temperature below 500°C.

SUB CODE: 07/ SUBM DATE: 19Mar64

Card 1/1 UDC: 66.074.66

L 60224-65 EWT(l)/EWT(m)/EWP(t)/T/EWP(t)/EWP(b)/EWA(h) Pz-6/Peb IJP(c)
JD/AT

ACCESSION NR: AT5013579 UR/2584/64/000/017/0191/0194 24

AUTHOR: Pundur, P. A. 22

TITLE: Effect of temperature variation on the thickness of diffusion layers in semiconductors 21 B+1

SOURCE: AN LatSSR. Institut energetiki. Trudy, no. 17, 1964. Poluprovodniki i ikh primeneniye v elektrotekhnike, 3. Upravlyayemyye poluprovodnikovyye vypryamitel'nyye elementy i ikh primeneniye (Semiconductors and their use in electrical engineering, 3. Controlled semiconductor rectifying elements and their use), 191-194

TOPIC TAGS: diffusion transistor, semiconductor, diffused impurity

ABSTRACT: The variation Δx_0 of the x_0-thick diffusion layer is connected with the variation ΔT of the process temperature T in the following way: $\frac{\Delta x_0}{x_0} = \frac{\Delta E}{2R} \cdot \frac{\Delta T}{T^2}$, where ΔE is the activation energy and R is the gas constant. This J. E. Reynolds

Card 1/2

L 60224-65

ACCESSION NR: AT5013579

2

formula (IRE Trans., El. Dev., 8, 1961, 5, 377-381) is derived by the author in a different way. Estimates show that a slight variation (1% at 820C) of the diffusion temperature may result in a considerable (10%) change in the diffusion-layer thickness in Ge. "In conclusion, the author wishes to thank Candidate of physico-mathematical sciences I. Feltin' for going over the manuscript and making valuable comments." Orig. art. has: 1 figure, 11 formulas, and 1 table.

ASSOCIATION: Institut energetiki AN Latviyskoy SSR (Institute of Power Engineering, AN Latvian SSR)

SUBMITTED: 00 ENCL: 00 SUB CODE: EC

NO REF SOV: 002 OTHER: 001

Card 2/2

L 59202-65 EWT(m)/EWP(b)/EWP(t) IJP(c) JD

ACCESSION NR: AR5017544 UR/0058/65/000/006/E065/E065

SOURCE: Ref. zh. Fizika, Abs. 6E512

17

AUTHORS: Pundur, P. A.; Feltyn', L. A.

B

TITLE: Measurement of the local lifetime of carriers in germanium 27

CITED SOURCE: Izv. AN LatvSSR. Ser. fiz. i tekhn. n., no. 6, 1964, 15-22

TOPIC TAGS: germanium, carrier lifetime, local lifetime, minority carrier, dislocation density

TRANSLATION: Some problems are worked out concerning a procedure for measuring the local lifetime τ of minority carriers in germanium; the procedure is based on measuring the modulation of conductivity in a point contact. An estimate is made of the influence of the size and location of the contact on the measurement results; conditions are obtained, under which τ is determined as the difference between the delays of two pulses. Results of measurements of τ in local regions of germanium samples with dislocation-density gradient are presented.

SUB CODE: SS ENCL: 00

Card 1/1

PUNEGOV, P.

Due to automatization and mechanization. Sov. profsoiuzy 7 no.13:25 Jl '59. (MIRA 12:10)

1. Zaveduyushchiy otdelom truda i zarplaty oblsovprofa Komi ASSR. (Komi A.S.S.R.--Coal mines and mining)

YUGOSLAVIA / Chemical Technology. Chemical Products and Their Applications. Fats and Oils. Waxes. Soaps and Detergents. Flotation Agents. H

Abs Jour: Ref Zhur-Khimiya, 1959, No 4, 13363.

Author : Krajcinovic, Matija; Filajdic, Mirko; Punek, Branko.
Inst : Not given.
Title : Test of Suitability of Local Activated Clays for Bleaching Vegetable Oils.

Orig Pub: Kemija u industriji, 1957, 6, No 3, 77-82.

Abstract: It is shown that clay from the Bednya locality (Federated People's Republic of Yugoslavia) which was first activated in the "Metan" factory, did not yield to the imported German clay ("Nordal'") concerning bleaching properties. -- A. Yemel'yanov.

Card 1/1

PUNEK, Branko, inz.

New ways in the estimation of the value of casting bentonites with regard to the appearance of superficial errors. Ljevarstvo 8 no.3/4:113-114 '61.

1ST AND 2ND ORDERS

3RD AND 4TH ORDERS

PROCESSES AND PROPERTIES INDEX

Brownish wood pulp. S. M. PUNDIK and A. D. SHAPIRO. Russ. 29,334, June 15, 1931. Waste from the manuf. of veneer or matches is steamed in iron kettles at 4 atm and for 6–8 hrs depending on the type of wood. The substance is then left in the kettle filled with H_2O for 2 hrs under a pressure of 3.5–4 atm. The product is ground under rollers, sorted, etc.

ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION

Punenkov, N.I.

Optimum moisture content in leather prior to cutting. N. I. Punenkov and Kh. I. Rivkina. *Legkaya Prom.* 14, No. 8, 40-1(1954).—Limitation of moisture content to 16% in Russian specifications restricts the use of leathers with a higher moisture content. In order to overcome this drawback, the specifications should be amended to include a shrinkage factor. B. Z. Kamich

PUNENKOV, N.I.; RIVKINA, Kh.I.

Optimal moisture content in leather before splitting. Leg. prom. 14 no.8:40-41 Ag '54. (MIRA 7:8)
(Leather)

PUNG, A.

The situation of cattle breeding on the collective farms and the problems of its development. p. 101

SOTSILKTLIK POLLUMJANDUS. POLLUMJANDUS MINISTEERIUM.
Tallin, Hungary. No. 3, 1958.

Monthly List of East European Accessions (EEAI) LC, Vol. 8, no. 11
November 1959.

Uncl.

USSR / Farm Animals. Cattle. Q-2

Abs Jour : Ref Zhur - Biol., No. 14, 1958, No. 64411

Author : Pung, A.
Inst : Estonian Agricultural Academy
Title : The Results of Experiments in Industrial Crossbreeding of Cattle in the Estonian SSR

Orig Pub : Eesti Pollumaj. Akad. teaduslike toode kogumik; sb. nauchn. tr. Est. s.-kh. akad., 1957, 3, 134-143

Abstract : At the Tyakhtveresk Experimental Base of the Institute of Animal Husbandry, Academy of Sciences, Estonian SSR, experiments were carried out in the crossing of Black-Spotted, Red and Local Estonian breeds (in all, 118 heads were obtained). In live weight, at 24 months of age, the crosses of Black-Spotted X Red surpassed the purebred animals by 6-7%, and the crosses of Red X Local and Black-Spotted X Local were lagging behind the purebred animals

Card 1/2

PUNG, A.

Pung, A. - "Breeding selection on the basis of the Michurin and Ivanov theory," In symposium: Nauch. sessiya po voprosam biologii 20-21 okt. 1948 g. (Akad. nauk Eston. SSR), Tartu, 1949, p. 143-48 - In Estonian language - Resume in Russian.

SO: U-3400, 10 July 53, (Letopis 'Zhurnal 'nykh Statey, No. 6, 1949).

USSR / Farm Animals. Cattle. Q

Abs Jour : Ref Zhur - Biologiya, No 5, 1959, No. 21217

Author : Pung, A. I.
Inst : AS Estonian SSR, Branch of Biology
Title : Comparative Characteristics of Estonian Breed Cattle Based Upon Biologic and Economic Indicators

Orig Pub : Izv. AN Est SSR, Ser. biol., 1957, 6, No 4, 307-322

Abstract : The cows of the Estonian Black-spotted breed possess the highest live weight (averaging 555 kg). The average live weight of Red breed cows amounts to 508 kg and of the Estonian local breed to 380 kg. The cows of the Estonian Black-spotted and Red breeds are distinguished by the highest growth rate and best development. According to indices of body build, the cows of the Estonian local breed belong on the average to the mesosomatic type, the cows of the Red and Black-spotted

Card 1/3

PUNG, A.

Traveler's notes about Danish agriculture.

(To be contd) p. 476 (Sotsialistlik Pollumajandus. Vol. 12, no. 10, Oct. 1957. Tallinn, Estonia)

Monthly Index of East European Accessions (EEAI) LC. Vol. 7, no. 2, February 1958

PUNG, A.; VASARI, A.;

"Travelers' notes about Danish agriculture. (Conclusion)."

p.520 (Sotsialistlik Pollumajandus) Vol. 12, No. 11, Nov. 1957
Tallinn, Estonia

SO: Monthly Index of East European Accessions (EEAI) LC. Vol. 7, no. 4,
April 1958

PUNG, A. I., BORISENKO, Ye. Ya., VSYAKIKH, A. S., SHCHEKIN. V. A.

"Important problems of selection in cattle-and-horse breeding."

reported at Conference on Problem of Heredity and Variability, held at
Institute of Genetics, AS USSR, 8-14 Oct 1957
Vestnik AN SSSR, 1958, Vol. 28, No. 1, pp. 127-129 (author Kushner, Kh. F.)

ACC NR: AP7004967 SOURCE CODE: UR/0048/66/030/009/1443/1445

AUTHOR: Pung, L.A.; Khaldre, Yu.Yu.

ORG: none

TITLE: Electron paramagnetic resonance investigation of electron and hole processes in KCl:Ag and NaCl:Ag crystals /Report, Fourteenth All-Union Conference on Luminescence (Crystal Phosphors) held at Riga, 16-23 Sept. 1965/

SOURCE: AN SSSR. Izvestiya. Seriya fizicheskaya, v. 30, no. 9, 1966, 1443-1445

TOPIC TAGS: luminescent crystal, sodium chloride, potassium chloride, silver, bromine, x ray irradiation, luminescence center, impurity center, EPR, ABSORPTION LINE, CRYSTAL ABSORPTION

ABSTRACT: The authors have measured EPR absorption at temperatures from 100 to 400° K in KCl:Ag and NaCl:Ag crystals that had been excited by irradiation with x-rays at 77° K. The crystals were grown by the Kyropoulos technique from cp materials. The KCl melt contained 0.7 mole percent of Ag, and the NaCl melt contained 0.1 mole percent of Ag. The authors have described their apparatus and experimental technique elsewhere (Tr. In-ta fiziki i astron. AN EstSSR, No.31, 133 (1966)). Strong EPR absorption by Ag^{2+}, Cl_2^-, and $BrCl^-$ centers was observed in both materials, and EPR absorption by Ag^0 centers was observed in the KCl:Ag, but not in the NaCl:Ag crystals (bromine was present as an impurity in all the crystals). The Cl_2^- centers were most prominent in the low temperature portion of the investigated temperature range, the $BrCl^-$ center

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ACC NR: AP7004967

were most concentrated at the middle temperatures and the Ag^{2+} centers were most concentrated near the high temperature portion of the range. The Ag^{0} center concentration in the KCl:Ag crystals decreased monotonically with increasing temperature over the entire investigated range. The width and shape of the Ag^{0} , Ag^{2+} , and BrCl^{-} EPR absorption lines remained constant over the full temperature range, but the Cl$_2^-$ line in KCl:Ag increased in width with increasing temperature, beginning at about 220° K. It is concluded from the present data that the relaxation in KCl;Ag at 230-270° K is due to a hole process, and from the present data together with other data in the literature, that the relaxation in KCl:Ag at 300-380° K and in NaCl:Ag at 200-250° K is due to an electron process. The failure to observe Ag^{0} centers in NaCl:Ag is ascribed to broadening of the EPR line with consequent reduction of its intensity below the noise level as a result of interaction of the unpaired electrons in the shallow activator traps with the surroundings. The authors thank Ch.B.Lushchik for his interest in the work and for valuable advice. Orig. art. has: 2 figures.

SUB CODE: 20 SUBM DATE: none ORIG. REF: 006 OTH REF: 002

Card 2/2

ACC NR: AP7004968 SOURCE CODE: UR/0048/66/030/009/1446/1447

AUTHOR: Pung, L. A.; Khaldre, Yu. Yu.

ORG: none

TITLE: Temperature stability of self-trapped holes in some alkali halide single crystals /Report, Fourteenth All-Union Conference on Luminescence (Crystal Phosphors) held at Riga, 16-23 Sept. 1965/

SOURCE: AN SSSR. Izvestiya. Seriya fizicheskaya, v. 30, no. 9, 1966, 1446-1447

TOPIC TAGS: luminescent crystal, sodium chloride, potassium chloride, silver, lead, thallium, luminescence center, EPR, ELECTRON TRAPPING, TEMPERATURE DEPENDENCE

ABSTRACT: The authors have employed EPR absorption to measure the concentration of Cl_2^- centers at temperatures from 100 to 300° K in x-ray excited pure and Ag, Pb, and Tl activated NaCl and KCl crystals. The crystals were grown by the Kyropoulos technique from melts containing from 0.1 to 0.7 mole percent of the activator. A variant of the pulse heating technique of Ch.B.Lushchik (Tr. In-ta fiziki i astron. AN EstSSR, No.4, 42 (1956)) was employed to vary the temperature of the specimens. The crystals were excited by x-rays at 77° K. The results are presented as curves showing for the different crystals the relative number of Cl_2^- centers as a function of temperature, and are discussed briefly. Release of holes from traps was found to take place in NaCl and NaCl:Ag crystals at the same temperature (beginning at about 150° K), and in

Card 1/2

ACC NR: AP7004968

NaCl:Pb at some 10° higher. In the activated KCl crystals, detrapment of holes took place at temperatures ranging from 190 to 210° K. Decrease of the Cl_2^- center concentration in pure KCl began at 125° K. The present results cannot be reconciled with the finding of C.J.Delbecq, B.Smaller, and P.H.Yuster (Phys.Rev., 111, 1235 (1958)) the delocalization of V_k centers in pure KCl takes place at 130° K. No changes (except in intensity) in the Cl_2^- EPR spectrum were observed at temperatures below 220° K; the hyperfine structure of the EPR line broadened at higher temperatures, indicating a change in the surroundings of the holes, i.e., their detrapment. The decrease in the Cl_2^- center concentration with increasing temperature at lower temperatures is ascribed to recombination with electrons released from electron traps. The Cl_2^- centers were found to transform at certain temperatures into new centers that were more stable; this resulted in a stepwise shape of the concentration - temperature curve. The temperature at which self-trapped holes were freed did not depend strongly on the impurities in the crystals. The authors thank Ch.B.Lushchik for a valuable advice and discussions. Orig. art. has: 2 figures.

SUB CODE: 20 SUBM DATE: none ORIG. REF: 002 OTH REF: 001

Card 2/2

ACC NR: AP6026695 SOURCE CODE: UR/0181/66/008/008/2427/2429

AUTHOR: Pung, L. A.

ORG: Tartu State University (Tartuskiy gosudarstvennyy universitet)

TITLE: Nonisothermal EPR relaxation and hole recombination luminescence in KCl•KBr-Ag and NaCl•NaBr-Ag crystals

SOURCE: Fizika tverdogo tela, v. 8, no. 8, 1966, 2427-2429

TOPIC TAGS: EPR, recombination luminescence, alkali halide, electron

ABSTRACT: Pulse heating of excited crystals is used to study nonisothermal EPR relaxation. An attempt is made to explain the nature of certain maxima on the thermoemission curves of KCl and NaCl crystals x-irradiated at low temperature. Autolocalized holes (Cl_2^- ions in the lattice) and more complex hole centers of the type ($BrCl^-$) form in these crystals. Such centers possess different thermal stabilities, and if the holes are freed from all centers, they can be expected to recombine with localized electrons, generating "hole-type" recombination luminescence. From the results of the experiments, in KCl-Ag, KCl•KBr-Ag, and NaCl•NaBr-Ag crystals, the thermoemission peaks can be related to the liberation of holes from the various centers at various temperatures. The results also show that hole recombination luminescence exists in alkali halide crystals and that the EPR method can be used to detect small bromine impurities in alkali

Card 1/2

ACC NR: AP6026695

chloride crystals. The author thanks Ch. B. Lushchik for discussions and M. F. Okk and I. V. Yaek for assistance in the work. Orig. art. has: 3 figures.

SUB CODE: 20/ SUBM DATE: 04Dec65/ ORIG REF: 004/ OTH REF: 002

Card 2/2

RYLESHNIKOVA, M.M.; GUSEV, V.M.; FRIDMAN, M.L.; PUNGA, V.E.

Portable machine for shabot repair. Mashinostroitel' no.2:22 F '62. (MIRA 15:2)

(Milling machines)

PUNGA, V.K.

Case of Mondor's disease. Zdravookhranenie 5 no.4:53 Jl-Ag '62.
(MIRA 15:9)

1. Iz bol'nitsy s. Bratushany (glavnyy vrach L.G.Gel'man).
(VEINS--DISEASES)

TETRADOV, A.N.; BRATU, D.M.; KIROSHKA, M.V.; PUNGA, V.K.; BYRSAN, M.R.;
LEMPERT, M.D.; KERDIVARENKO, Ye.P.; SYRBUL, V.S.

Experience in the treatment of acute renal insufficiency following poisoning with distilled vinegar. Trudy Kish. gos. med. inst. 24:23-26 '64 (MIRA 18:1)

1. Urologicheskaya klinika Kishinevskogo gosudarstvennogo meditsinskogo instituta.

PUNGA, V.K.

Calculation of the replacement time of the dialyzing solution in non-continuous dialysis of the peritoneum. Trudy Kish. gos. med. inst. 24:44-47 '64 (MIRA 18:1)

Peritoneal dialysis in dogs following bilateral nephrectomy or bilateral ligation of the ureters. Ibid.:48-60

1. Urologicheskaya klinika Kishinevskogo gosudarstvennogo meditsinskogo instituta.

[illegible] I. [illegible] Gabeler, [illegible] and [illegible] Folyoirat (Hungar. Chem. J.), [illegible], vol. [illegible], 250-255; abstr. in Chem. Abstr., 1954, vol. 48, [illegible]). A small part of a gas sample is [illegible] by means of a special gas measuring and analysing apparatus. Two methods are described, one, based on the absorption of oxygen by Zn at 200-250°, used for determining oxygen content in gas samples containing more than 0.1 vol. %, and one for samples with oxygen content below 0.1 vol. % in which a 5% solution of $SnCl_2 \cdot 4H_2O$ is treated with 1.5N NaOH containing 5% KI and 4-5 drops 1% starch. The freshly precipitated $Sn(OH)_2$ is suitable for absorbing traces of oxygen in the gas sample. C.A.

CA

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The corrosion of cable wires by hemp. W. Pungel. *Eisen- u. Metall-Verarb.* 1, 54-6(1949); ~~*Chem. Zentr.*~~ 1950, I, 1028.—Areas of corrosion were observed at points where the strands of cable wire came in contact with hemp rope. These areas did not show the character of rusting so much as that of an etching action. Analysis of Manila and sisal hemps showed the former to contain 0-0.06% NaCl while the latter was practically NaCl-free. The Na_2SO_4 content of neither hemp exceeded 0.15%. The investigations showed that the corrosion of the cable wire was greatly promoted and even primarily caused by the NaCl content of the hemp. Oiling the wire offered no protection against this action. Such corrosion can be avoided by using hemp which is practically free from NaCl (less than 0.01%).

M. G. Moore

GERMAN, A.L.; PUNGER, A.S.; VAKHRAMEYEV, B.A.; OKULOV, I.B.; VAKHRAMEYEV, D.F., inzhener, retsenzent; BAUMAN, N.Ya., inzhener, redaktor; DUGINA, N.A., tekhnicheskiy redaktor

[Technology of the production of small and medium hydraulic turbines] Tekhnologiia proizvodstva malykh i srednikh gidroturbin. Moskva, Gos. nauchno-tekhn. izd-vo mashinostroit. lit-ry, 1954. 399 p. [Microfilm]
(Hydraulic turbines) (MLRA 8:3)

YUGOSLAVIA/Analytical Chemistry. Analysis of Organic Substances.

E-3

Abs Jour: Ref Zhur-Khim., No 13, 1958, 43089.

Author : Kraljic I., Kopriva M. Pungersek M.
Inst : Yugoslav Academy.
Title : Detection of Nitroso Compounds.

Orig Pub: Bull. scient. Conseil Acad. RPF Yougosl., 1957, 3, No 4, 104-105.

Abstract: Description of a new spot reaction for nitroso compounds (I). On a plate is placed one drop of each of the following solutions: 1 M acetate buffer of pH 4.1 or 4.4 (0.02 ml), freshly prepared 1% solution of $K_4[Fe(CN)_6]$ (0.02 ml), 10^{-4} M solution of $HgCl_2$ (0.02 ml), and one drop (0.04 ml) of the solution being analyzed. The

Card : 1/2

ACC NR: AP7002962 (A) SOURCE CODE: UR/0413/66/000/024/0041/0042

INVENTOR: Bushmin, M. Ye.; Smelyakov, V. V.; Mints, M. Ya.; Pungin, L. M., Tolstikov, V. F.

ORG: None

TITLE: A digital infrasonic phase-frequency meter. Class 21, No. 189485 [announced by the Kharkov Higher Master Engineering Academy (Khar'khovskoye vyssheye komandno-inzhenernoye uchilishche)]

SOURCE: Izobreteniya, promyshlennyye obraztsy, tovarnyye znaki, no. 24, 1966, 41-42

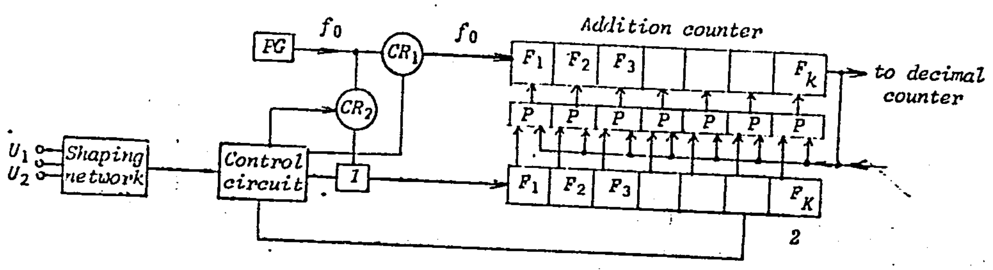
TOPIC TAGS: digital system, phase meter, frequency meter, logic element

ABSTRACT: This Author's Certificate introduces a digital infrasonic phase-frequency meter with intermediate time-pulse conversion containing a standard generator with output connected through controlled rectifiers to the inputs of addition and subtraction pulse counters, a shaping network and a registration unit. Measurement accuracy is improved and speed is increased by using a frequency divider connected to the input circuit of the subtraction counter in series with a controlled rectifier, together with a control unit based on logical elements and a reversible counter. One of the inputs of the control unit is connected to the shaping network, the other input is connected to the subtraction counter and the outputs are connected to the controlled rectifiers.

Card 1/2

UDC: 621.317.761:621.317.772

ACC NR: AP7002962



1--frequency divider; 2--subtraction counter

SUB CODE: 09/ SUBM DATE: 17Aug64

Card 2/2

C.A.

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Titrimetric methods of gas analysis. II. Determination of nitrous oxide. Elemér Schulek and Ernö Pungor (Eötvös Univ., Budapest). *Magyar Kém. Folyóirat* 56, 300-7(1950); cf. *C.A.* 40, 378g.—The principle of the new method is to decomp. N_2O by heating at 700 to 800°, leading the gas through glass particles mixed with MnO, and measuring the resulting higher Mn oxides by iodometry. The app. described in a previous paper (*loc. cit.*; *C.A.* 45, 6570a) is suitable. Further expts. proved that MnO can reduce N_2O at higher temps. (about 400°) without any previous heat-treatment. Under favorable conditions the reduction effected by MnO may yield N. When com. N_2O gas was purified by freezing, the new titrimetric method gave a N_2O content varying from 83.14 to 80.83 vol. %. The difference is not due to a failure of the new method, but is probably caused by the presence of triatomic N having phys. properties very similar to those of N_2O. **III. Iodometric measurement of nitrogen trioxide, nitrogen dioxide, and nitric oxide.** *Ibid.* 307-9.—First, pure N gas is led through the app. to remove O. N was purified by passing through a wash-bottle contg. $Na_2S_2O_4$. For the actual binding of NO and NO_2, a quartz reaction tube contg. glass particles mixed with $MnCO_3$ is used. $MnCO_3$ is converted to MnO by elec. heating to 200° when O traces are to be eliminated and to 300° when N oxides are to be bound. It is essential that the amt. of gas sample used should not exceed 0.2-1.0 ml., that the MnO should not have a temp. below 300°, and that the velocity of gas rate should not exceed one bubble per sec. After absorption of the gases, an aq. KI soln. contg. 10% HCl is used to dissolve Mn oxides, and the soln. is titrated with a 0.01 *N* $Na_2S_2O_3$ soln., each ml. of which represents 0.1500 mg. NO, or 0.1150 mg. NO_2. The accuracy was proven by tests with known amts. of N oxides.

István Finály

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3RD AND 4TH ORDERS

Magyar Kemiai Folyoirat
Hungarian Journal of Chemistry
vol. 46 1950
no. 11 november

E. Schulek
and E. Pungor Titrimetric methods of gas analysis III
Iodometric measurement of nitrous anhydride (N_2O_3) respectively of nitrogen oxide (NO) and of nitrogen dioxide (NO_2) .. 467 - ..

ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION

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Manganese(II) carbonate and its properties of value in gas analysis. Elemér Schulek and Ernö Pungor (Univ. Budapest). *Magyar Kémi. Folyóirat* 56, 213-14(1950). — MnO and $MnCO_3$ were examd. as O absorbents for gas analysis. $MnCl_2.4H_2O$ (25 g.) was dissolved in 50 ml. water and filtered and 20 g. $NaHCO_3$ in 200 ml. water was added. When the gas development ceased, the ppt. was filtered with suction, washed with water and 98% EtOH, dried, and the last traces of water and EtOH were removed by washing with pentane. The $MnCO_3$ contains water of crystn. but no water resulting from hygroscopicity. Hygroscopic $MnCO_3$ is very unstable in air. The proper formula is $MnCO_3.2H_2O$. Its water of crystn. disappears between 70 and 100°, CO_2 evolution begins at 250°, and above 300° $MnCO_3$ is quickly transformed to bright-green MnO. MnO absorbs O even at room temp., and O absorption is vigorous at 200°. MnO, besides binding free O, at 200° decomps. NO and NO_2, and at 450-500° N_2O. The higher oxides of Mn can be reduced by H at 350° to green MnO. This reaction is considerably more rapid at 400° and is thus suitable for recovery of the spent MnO. These properties indicate that $MnCO_3.2H_2O$ is an excellent substance for gas analysis, e.g., for removing traces of O from N or H. For such purposes the $MnCO_3$ must be sprayed on a carrier, such as powd. glass. Pumice was unsuitable because of O adsorption. István Finály

CA

Tray and scoop for mercury. Elemér Schulek and Erno Pungor (Eötvös Univ., Budapest). *Magyar Kém. Folyóirat* 56, 400(1950).—The use of a tray with a 5-6 cm. high side wall and a scoop with a deepening where Hg is accumulated makes manipulation of Hg in gas analysis much easier. The tray and scoop are described in detail. István Finály

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COMMON ELEMENTS

18. Data on the theory of adsorption indicators, dyes absorbed by ions serving as indicators for acidimetry and alkalimetry, by E. Schulek and E. Pungor. (Magyar Kémiai Folyóirat — Hungarian Journal of Chemistry — Vol. 56, No. 1, pp. 11-16, Jan., 1950)

Para-ethoxychrysoidine was applied as an indicator in the titration of [illegible] solutions with haloid salt solutions. In examining the titration it was established that the colour produced by the process, during which the dye is adsorbed by the ions, depends on the nature of the surface, on the presence of its [illegible] ions and on their concentration. This phenomenon [illegible] in the case of AgI. Experiments were also made with [illegible] and flour seem according to which the [illegible] of the indicator begins with the appearance of colloidal silver haloid. The explanation of the phenomenon based on Fajan's theory is more exact by emphasizing the change of measurable constants (dissociation constants, solubility products, etc.) instead of speaking of any [illegible] of dyestuff ions. Detailed information is given for the practical preparation and the use of adsorbed dyes appropriate for acidimetry and alkalimetry.

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